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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,658	12/27/2001	Nobuyuki Matsuo	SIC-01-017	7988
29863	7590	01/22/2004	EXAMINER	
DELAND LAW OFFICE P.O. BOX 69 KLAMATH RIVER, CA 96050-0069			LE, DAVID D	
			ART UNIT	PAPER NUMBER
			3681	

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/033,658

Applicant(s)

MATSUO ET AL.

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 and 11-34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-10 and 35-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This is the third Office action on the merits of Application No. 10/033,658, filed on 27 December 2001. Claims 1-40 are pending.

#### Documents

1. The following documents have been received and filed as part of the patent application:
  - Information Disclosure Statement, received on 12/27/01
  - Substitute Drawings, received on 06/23/03

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-4, 8-10, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,422,971 to Katou et al.**

#### *Claims 1-4, 8-10, and 39:*

***Katou*** (i.e., Figs. 1-2; column 3, line 49 – column 5, line 45) discloses a planetary carrier comprising:

- A first carrier member (2) including a first carrier member axle opening (Fig. 1) for receiving an axle therethrough;

- A plurality of first planet gear openings (i.e., Fig. 1; vicinity of element 22) for receiving a plurality of first planet gears (P2) and a first pinion pin opening (31) at each of the plurality of first planet gear openings for mounting a first pinion pin (S2) that rotatably supports a first planet gear (P2);
- Wherein the first carrier member axle opening is structured to allow the first carrier member to rotate relative to the axle (i.e., Fig. 1);
- A separate second carrier member (1) having a second carrier member axle opening (10) for receiving the axle therethrough;
- Wherein the second carrier member axle opening is structured to allow the second carrier member to rotate relative to the axle;
- Wherein the first carrier member is fastened to the second carrier member;
- A coupler (23) for nonrotatably coupling the first carrier member to the second carrier member;
- Wherein the coupler comprises a carrier pin (being element 32);
- Wherein the carrier pin extends from the side of the first carrier member;
- Wherein the first carrier member includes a plurality of second planet gear openings (vicinity of element 30) for receiving a plurality of second planet gears (P1);

- Wherein the plurality of first planet gear openings is disposed on a first side of the first carrier member and wherein the plurality of second planet gear openings are disposed on a second side of the first carrier member (Fig. 1); and
- Wherein the first carrier member includes a guide rib (being the flanges 32) that engages the second carrier member.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katou et al. in view of U. S. Patent No. 4,187,740 to Silvestri and further in view of U. S. Patent No. 5,382,203 to Bellman et al.**

Claims 36-38:

**Katou** discloses all elements and limitations as set forth in claim 1 above.

Regarding claims 36-38, Katou lacks:

- Wherein the first carrier member is formed from a different material than at least one of the second carrier member and the third carrier member;
- Wherein the first carrier member is formed of a light alloy metal; and
- Wherein the first carrier member is formed of an aluminum alloy metal.

*Silvestri* (i.e., Figs. 1-4; column 2, lines 30-60), however, teaches the first carrier (120) being formed from of a lightweight metal, preferably aluminum.

*Bellman* (i.e., column 3, lines 7-16) teaches the advantage of utilizing different metal materials.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to recognize the advantage of a light alloy metal and utilize material such as aluminum alloy in constructing a planetary carrier assembly, in view of *Silvestri* and *Bellman*, in order to reduce the overall weight of the hub transmission.

6. **Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Katou et al.* in view of U. S. Patent Application Publication No. US 2002/0187870 A1 to *Staheli et al.***

*Claim 35:*

*Katou* discloses all elements and limitations as set forth above. Regarding claim 35, *Katou* lacks a bushing disposed in the pinion pin opening radially between the pinion pin and the first carrier member.

*Staheli* (i.e., Fig. 1; paragraph [0013]) teaches a multi-speed wheel hub comprising a bushing (50) disposed in the pinion pin opening radially between the pinion pin and the carrier member (18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katou carrier to include the bushing, in view of *Staheli*, in order to reduce friction between the planet gear and the pinion pin.

**7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,010,425 to Tabe in view of Katou et al.**

*Claim 40:*

*Tabé* (i.e., Figs. 1-3, column 4, line 5 – column 6, line 67) discloses a bicycle hub transmission comprising:

- A hub axle (21);
- A driver (22);
- A hub shell (10);
- A planetary gear mechanism (24);
- A carrier (52); and
- A plurality of planet gears (53).

***Tab*** lacks:

- A first carrier member;
- A second carrier member; and
- Wherein the first and second carrier member axle openings are structured to allow relative rotation between the axle shaft and the carrier members.

***Katou*** (i.e., Figs. 1-2; column 3, line 49 – column 5, line 45) discloses a planetary carrier comprising:

- A first carrier member (2) including a first carrier member axle opening (Fig. 1) for receiving an axle therethrough;
- A plurality of first planet gear openings (i.e., Fig. 1; vicinity of element 22) for receiving a plurality of first planet gears (P2) and a first pinion pin opening (31) at each of the plurality of first planet gear openings for mounting a first pinion pin (S2) that rotatably supports a first planet gear (P2);
- Wherein the first carrier member axle opening is structured to allow the first carrier member to rotate relative to the axle (i.e., Fig. 1);
- A separate second carrier member (1) having a second carrier member axle opening (10) for receiving the axle therethrough;
- Wherein the second carrier member axle opening is structured to allow the second carrier member to rotate relative to the axle; and
- Wherein the first carrier member is fastened to the second carrier member.



It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Tabe planetary carrier such that the planetary carrier is a multi-piece type planetary carrier, in view of Katou, in order to increase the strength as well as to facilitate the ease in manufacturing this type of planetary carrier at a relatively low cost.

*Allowable Subject Matter*

8. Claims 5-7 and 11-34 are allowed.

*Response to Arguments*

9. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

  
ddl

 1/14/04  
Richard M. Lorence  
Primary Examiner  
AU 3681